UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

SUMMARIES OF DATA ON AND LISTS OF REFERENCES TO METALLIC AND SELECTED NONMETALLIC MINERAL OCCURRENCES IN THE HUGHES, KOTZEBUE, MELOZITNA, SELAWIK, AND SHUNGNAK QUADRANGLES, WEST-CENTRAL ALASKA, SUPPLEMENT TO OPEN-FILE REPORT 75-627

PART A -- SUMMARIES OF DATA TO JANUARY 1, 1981

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Open-File Report 81-847A 1981

This report in preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and nomenclature.

#### Introduction

This report was prepared as a supplement to a 1975 report which summarized data on mineral occurrences in part of west-central Alaska (Cobb, E. H., 1975, Summary of references to mineral occurrences (other than mineral fuels and construction materials) in five quadrangles in west-central Alaska (Hughes, Kotzebue, Melozitna, Selawik, Shungnak): U.S. Geological Survey Open-File Report 75-627, 57 p.). As a result of suggestions from users of the series of which the 1975 report is a part, this supplement is released in two parts; Part A, which presents summaries of data to January 1, 1981, and Part B, which consists of reference lists for each occurrence.

In Part A data from most reports released between the cut-off date (January 1, 1975) for the original report and January 1, 1981, have been incorporated in new or rewritten summaries where appropriate. For each occurrence described in Part A, the name, U.S. Bureau of Mines mining district, reference (if any) that has the occurrence plotted on a map at a scale of 1:250,000, list of mineral commodities, and location data are in the same format as in the 1975 report. Also included at the end of Part A are updated lists of synonyms, owners, operators, and claim names.

In both parts citations are in standard bibliographic format with the exception that references to reports and maps in numbered publication series also show, in parentheses, an abbreviation for the report or map series and the number of the report or map. Abbreviations used are:

AOF	Alaska Division of Geological and Geophysical Surveys
	Open-File Report
В	U.S. Geological Survey Bulletin
С	U.S. Geological Survey Circular
GR	Alaska Division of Geological and Geophysical Surveys
	(and predecessor agencies) Geologic Report
I	U.S. Geological Survey Miscellaneous Investigations Map
OF	U.S. Geological Survey Open-File Report
MF	U.S. Geological Survey Miscellaneous Field Studies Map
P	U.S. Geological Survey Professional Paper
TDM	Alaska Territorial Department of Mines Pamphlet
USBM OF	U.S. Bureau of Mines Open-File Report

In Part B each citation to the principal references used in preparing summaries in Part A is preceded by an asterisk. The form of citation used in the reference list for each occurrence is considered sufficient identification for each numbered report or map to be found easily in most libraries. Complete references to reports without identifying numbers are listed at the end of Part B.

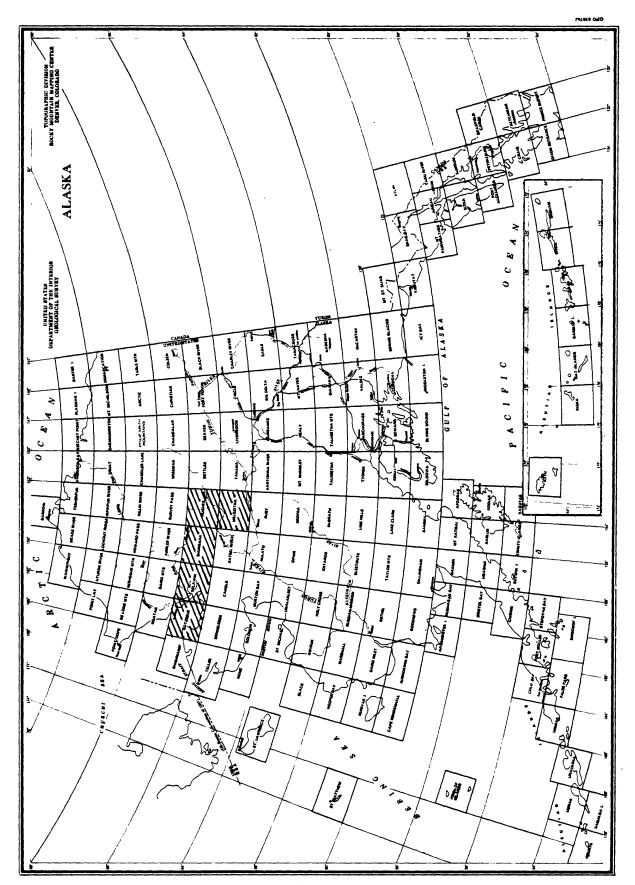
The following four U.S. Bureau of Mines Open-File Reports were not used in preparing this supplement because descriptions of most occurrences are not sufficiently detailed to allow evaluation of deposits. In many descriptions it is not possible to determine if a potentially valuable mineral was identified or if the report is based solely on an analysis of a sample collected during a geochemical survey. Most specific data are also in other reports, such as Grybeck, 1977 (OF 77-166C) and Eberlein and others, 1977 (OF 77-168D).

Staff, Alaska Field Operations Center, 1978, Mineral data appraisal of the proposed Noatak National Ecological Reserve, Alaska: a preliminary comment: U.S. Bureau of Mines Open-File Report 67-78, 33 p.

\_\_\_\_\_\_, 1978, Mineral appraisal of the proposed Gates of the Arctic Wilderness National Park, Alaska: a preliminary comment: U.S. Bureau of Mines Open-File Report 109-78, 29 p.

\_\_\_\_\_\_, 1978, Mineral appraisal of the proposed Kobuk Valley National Park, Alaska: a preliminary comment: U.S. Bureau of Mines Open-File Report 110-78, 31 p.

\_\_\_\_\_\_, 1979, Mineral appraisal of the proposed Selawik National Wild-life Refuge, Alaska: a preliminary comment: U.S. Bureau of Mines Open-File Report 22-79, 7 p.



Index map

# HUGHES QUADRANGLE

(Bear Cr.)

Gold, Rare-earth elements, Thorium, Uranium

Hughes district MF-458, loc. 7

Hughes (1.5-2.3, 3.2-3.6) 66°11'-66°12'N, 155°40'-155°47'W

Auriferous gravels derived from glacial deposits of local origin; the gold and other heavy minerals in placer concentrates probably originally came from contact zone between Upper Cretaceous porphyritic monzonite and Lower Cretaceous andesitic volcanic rocks beneath glacial deposits about a mile above mined area. Small-scale placer mining began in the early 1900's; a dredge operated from 1957 to 1975 and probably accounted for a major part of the placer gold mined in Alaska during that time. Amount of production not known, but must have been large (more than 10,000 fine oz of gold). Concentrates contain minor amounts of several minerals (including zircon, uranothorianite, sphene, garnet, and epidote) containing rare-earth elements, thorium, and uranium. Sphene from one sample contained 28,450 ppm rare-earth elements and 1,400 ppm Th. Old reports of platinum-group metals and cassiterite in concentrates probably are not correct. Includes references to: (Hogatza), (Hogatza R.), (Hog R.).

(Black Cr.)

Copper, Gold

Hughes district MF-458, locs. 4, 10

Hughes (15.25-15.4, 1.5-1.8) 66<sup>o</sup>05'N, 153<sup>o</sup>50'-153<sup>o</sup>52'W

Placer gold mining in 1913 or earlier, 1915, and 1917 reported. Deposit about 12 ft wide; depth to bedrock about 20 ft. Disseminated pyrite and chalcopyrite in Mesozoic metavolcanic rocks and late-stage aplites near a Cretaceous granodiorite-quartz monzonite pluton at head of creek; anomalous Cu in grab samples of bedrock, but detectable Au in only two. Placer gold probably derived from contact zone. See also (Indian R.).

(Felix Fork) (Cr.)

Gold

Hughes district MF-458, loc. 10

Hughes (15.65, 1.6) approx. 66°04'N, 153°47'W approx.

Creek not shown on available maps, but is assumed to have been mined with Indian R.. Gold discovered in 1910; placer mining in 1911 and 1917. See also (Indian R.).

(Helpmejack Cr.)

Gold

Koyukuk district MF-458, loc. 12

Hughes (16.95, 17.9) approx. 67°00'N, 153°32'W approx.

Colors of gold, but not enough for profitable mining.

(Hughes Bar)

Gold

Hughes district MF-458, loc. 8

Hughes (12.3, 0.8) 66°02'N, 154°16'W

Bar of Koyukuk R. on which fine gold was discovered in early 1890's. Little, if any, mining after 1898. Production may have been about 200 oz of gold.

(Indian R.)

Gold, Molybdenum, Silver, Zinc

Hughes district

Hughes (15.3-16.0, 1.0-1.8)

MF-458, locs. 5, 6, 10

 $66^{\circ}01'-66^{\circ}05'N$ ,  $153^{\circ}45'-153^{\circ}50'W$ 

Cretaceous granodiorite and quartz monzonite pluton intruded Jurassic and Cretaceous andesitic volcanic rocks, graywacke, and mudstone. Placer area (MF-458, loc. 10) underlain by plutonic rocks. Deposit (MF-458, loc. 5) said to contain molybdenite uncovered by placer mining. Sphalerite in altered intrusive rock (MF-458, loc. 6) that also contains as much as 6 ppm Au downstream from placer area. Placer mining from 1911 to as recently as 1965. Large-scale operations ceased in 1961. Production not known, but probably was more than 10,000 fine oz of gold; as of 1917 production from basin was about 5,875 oz Au and 650+ of Ag. See also (Utopia Cr.) Melozitna quad., which is in basin of Indian R.

(Lake Selby)

Copper, Silver

Shungnak district MF-458, loc. 1

Hughes (1.5, 15.55) 66°53'N, 155°48'W

Chalcopyrite, limonite, and malachite and azurite stains in quartz vein in Cretaceous metaconglomerate. Sample contained 0.01% (100 ppm) Ag.

(Pocahontas Cr.)

Gold

Hughes district MF-458, loc. 9

Hughes (14.5, 0.45) 66°01'N, 153°58'W

Creek heads against headwaters of Indian R. and Utopia Cr. (Melozitna quad.). Placer gold prospects reported (written commun., H. M. Eakin, 1913, Field Notebook 376, p. 63).

(Red Mtn.)

Gold

Hughes district MF-458, loc. 11 Hughes (15.25, 5.4) approx. 66°17'N, 153°50'W approx.

As of 1913 a little placer gold has been recovered from the south bank of the Koyukuk R.

(Red Mountain Cr.)

Gold

Hughes district MF-458, loc. 3

Hughes (14.85, 5.4) 66°18'N, 153°54'W

Small pyritic hypabyssal latite porphyry body of probably Cretaceous age marked by a large gossan contains traces of gold; traces of zinc and other metals found by spectrographic analysis. Body intruded Cretaceous graywacke and mudstone unit.

(Reed R.)

Gold(?)

Shungnak district

Hughes NEZNWZ quad.

Prospecting in 1929-30. No data on results.

(Rocky Bottom Cr.)

Gold

Koyukuk district MF-458, loc. 13

Hughes (18.75, 17.4) approx. 66°58'N, 153°47'W approx.

Colors of placer gold, but not enough for profitable mining.

(Snyder Cr.)

Gold

Hughes district MF-458, loc. 10

Hughes (15.65, 1.6) approx. (?) 66°04'N, 153°47'W approx. (?)

Headwater tributary (not shown on available maps) of Indian R. on which auriferous gravel was discovered in 1910. Probably mined with Indian R. May be the same as Black Cr.

(Zane Hills)

Gold, Rare-earth elements, Molybdenum(?), Niobium, Silver, Thorium, Uranium

Hughes district

Hughes (0.0-1.35, 2.1-4.5) 66°07'-66°15'N, 155°49'-156°00'W

Pluton intruded Lower Cretaceous andesitic volcanic rocks. Pluton more than 90% granodiorite; heterogeneous monzonite unit (K-Ar age of 81.9+3.0 my on hornblende) along south and east margins of pluton is anomalously high in U, Th, and rare-earth elements. Samples contained 11-99 ppm U and 46-269 ppm Th (average 30 ppm U and 125 ppm Th). Sample from aplite dike cutting monzonite contained 130 ppm U and 189 ppm Th. Granodiorite near probably intrusive contact with younger monzonite enriched in U and Th; normal contents for granodiorite elsewhere. Alkali-rich dikes and small hypabyssal bodies (now altered) in volcanic rocks east of pluton abnormally radioactive; one sample contained 407 ppm U and 556 ppm Th; all others contained 33-82 ppm U and 80-226 ppm Th. Radioactive minerals appear to be disseminated in host rocks; minerals include uranothorianite, thorite, betafite (a niobate and titanate of uranium), allanite, zircon, garnet, and sphene in monzonite; mainly betafite and allanite in alkali-rich dikes and hypabyssal intrusives. Sphene in 2 samples of gneissic monzonite contained 27,890-39,180 ppm rare-earth elements and 390-760 ppm Th. Molybdenite was tentatively identified in vein in monzonite unit; sample contained 200 ppm Mo and 3,000 ppm Bi; at 66°12'N, 155°52'W. Pyrite in quartz in granodiorite and andesitic volcanic rocks contains as much as 2.4 ppm Au and 15 ppm Ag. Sample of pyritiferous silicified fine-grained rock in granodiorite unit near contact with monzonite contained 200 ppm Ag, 0.3 ppm Au, 500 ppm Pb, 1,000 ppm Bi, and 700 ppm W. See also (Bear Cr.).

Unnamed occurrence

Manganese

Koyukuk district MF-458, loc. 2

Hughes (14.5, 17.75) 67°00'N, 153°53'W

Rhodochrosite, manganite, and pyrolusite in altered volcanic rocks and phyllite.

#### KOTZEBUE QUADRANGLE

(Alder Cr.)

Gold

Fairhaven district MF-421, unnumbered loc.

Kotzebue (19.95, 1.4) 66°03'N, 162°12'W

Near mouth of stream wave erosion of schist bedrock resulted in about a foot of beach gravel on schist. Fine, bright gold on bedrock; some wire gold; probably locally derived from small quartz veins. A few hundred ounces recovered in 1902-03. Small-scale mining on Alder Cr. in 1927 reported.

(Rex Point)

Tungsten

Fairhaven district

Kotzebue (11.95, 1.5) 66°05'N, 163°19'W

A trace of scheelite was reported from a sample of beach gravel.

# MELOZITNA QUADRANGLE

(Batza Slough)

Copper, Lead, Silver

Hughes district

Melozitna (6.7, 15.0)

MF-396, loc. 1

65°51'N, 155°04'W

A float block of silicified rock contained galena, cerussite, malachite, and  $3\ \text{oz}\ \text{per}$  ton silver.

(Florence Bar)

Gold

Hughes district

Melozitna (12.0, 16.8) approx.

MF-396, loc. 2

65°57'N, 154°20'W approx.

Fine gold, not of local derivation, in bar of Koyukuk R. known since early 1890's. A total of about 200 oz of gold was mined from this and similar bars in the Hughes and Wiseman quads. before 1898.

(Fox Cr.)

Gold(?)

Melozitna district

Melozitna (5.1, 0.9) approx. 65°03'N, 155°19'W approx.

Three claims for placer gold reported in 1913. No record of production or later activity. Creek 15-20 ft wide in a valley 700 ft wide. Country rock is Upper Cretaceous nonmarine sedimentary rocks with ironstone concretions and lenses and abundant carbonized plant remains. [Data in part from H. M. Eakin, written communication, 1913.]

(Golden Cr.)

Gold

Melozitna district MF-396, loc. 7

Melozitna (21.9, 5.6) 65°17'N, 153°01'W

Has been small-scale placer gold mining. No placer cassiterite reported. Country rock is Paleozoic or Precambrian pelitic schist.

(Hochandochtla Mtn.)

Copper

Hughes district

Melozitna (8.25, 9.25) approx. 65°31'N, 154°53'W approx.

Chalcopyrite and malachite in fine-grained granitic dike of Late Cretaceous or early Tertiary age in unit of Lower Cretaceous andesitic and dacitic volcanic and hypabyssal rocks and tuffaceous graywacke altered to hornfels near small granodiorite bodies of Late Cretaceous age. [Age of dike from W. W. Patton, Jr., oral communication, May 28, 1981.]

(Illinois Cr.)

Gold

Melozitna district MF-396, loc. 6

Melozitna (21.1, 5.25) 65°16'N, 153°07'W

Placer gold prospects reported in 1911. One prospect hole sunk 133 ft passed through several beds containing fine gold, but failed to reach bedrock; ground in part unfrozen. Mining reported, but production probably was small. No cassiterite reported in concentrates.

(Mason Cr.)

Gold, Tin

Melozitna district MF-396, locs. 4, 5

Melozitna (19.3-19.75, 3.75-4.35) 65°11'-65°13'N, 153°19'-153°22'W

Country rock Paleozoic or Precambrian quartz-sericite and quartz-chlorite schists cut by unmineralized white quartz veinlets and lenses. Creek gravels mainly schist with a little vein quartz. Gold (some in pellets about the size of bird shot) and cassiterite in basal part of mainly unfrozen creek and bench gravels and in the top few feet of bedrock; no bedrock source of either gold or cassiterite has been found. Intermittent small-scale placer mining (mainly in creek gravels) or prospecting between

1908 and 1932 reported. Unconfirmed report that about 1 ton of cassiterite concentrate was recovered from 4,000 ft<sup>3</sup> of gravel, but not assayed or sold.

(Melozimoran Cr.)

Gold(?), Tin(?)

Melozitna district

Melozitna (18.0, 8.0) approx. 65°26'N, 153°32'W approx.

Cassiterite and goldsaid to have been recovered from prospect pits near mouth, 1913-18.

(Sun Mtn.)

Copper

Hughes district

Melozitna NEZNWZ quad.

Scattered occurrences of chalcopyrite, malachite, and pyrite along Koyu-kuk R. near Sun Mtn. Quartz latite dikes cut a widespread zone of thermally altered Lower Cretaceous andesite and other volcanic rocks, chert, and coquinoid limestone, suggesting a buried pluton at shallow depth. Several massive limestones as much as 65 ft thick would be favorable hosts for ore deposits.

(Utopia Cr.)

Antimony, Barite, Gold, Lead, Silver,

Zinc

Hughes district MF-396, loc. 3

Melozitna (15.8-16.5, 17.5-17.7) 65°59'-66°00'N, 153°41'-153°47'W

Bedrock is slightly metamorphosed Cretaceous andesite cut by fine-grained felsic intrusive bodies. Creek does not drain contact zone of Indian Mtn. pluton. Paystreak in upper valley south of center of valley. Placer mining from 1915 to 1936 was sporadic and small scale. Large-scale nonfloat mining began in 1938 or 1939 and ceased in 1952; during this time Utopia Cr. was a major producer of the Hughes district; no production figures are available, but must have been more than 10,000 oz of gold. Barite boulders in tailings contain galena, sphalerite, and silver-bearing tetrahedrite; tetrahedrite-bearing sample contained about 21 oz per ton silver. Source of metals and barite may have been tetrahedrite-sphalerite-galena-bearing veins in andesite.

Unnamed occurrence

Thorium, Uranium

Melozitna district

Melozitna (12.3, 4.8) approx. 65°16'N, 154°19'W approx.

Lower Cretaceous (K-Ar age  $111\pm3$  my) quartz monzonite of Melozitna pluton contains above average amounts of uranium and thorium.

#### SELAWIK QUADRANGLE

(Hunt Cr.)

Lead, Zinc

Selawik district MF-406, unnumbered lc.

Selawik (16.0, 3.25) 66°10'N, 159°44'W

Galena, sphalerite, and pyrite in quartz-calcite veins and in pink syenite. See also (Selawik Hills).

(Inland Lake)

Fluorite, Thorium, Uranium

Selawik district

Selawik (16.0, 5.7) 66°18'N, 159°44'W

Sample of fluorite-bearing pulaskite, possibly a dike, of Inland Lake alkaline complex contained 31 ppm U and 178 ppm Th.

(Selawik Hills)

Fluorite, Niobium, Rare-earth elements,

Tantalum, Thorium, Uranium

Fairhaven and Selawik districts

Selawik (8.6-15.5, 0.9-3.65) 66<sup>0</sup>02'-66<sup>0</sup>12'N, 159<sup>0</sup>49'-160<sup>0</sup>47'W

Selawik Hills pluton is composed of strongly faulted quartz monzonite, monzonite, and hybrid syenite cut by nepheline syenite dikes; locally appears to have been subjected to potassium metasomatism resulting in potassium-rich gneissic syenite along north border. Grab samples of representative syenite contained as much as 20 ppm U and 66 ppm Th. A sample from a thin syenite dike contained 139 ppm U and 618 ppm Th; the dike contains small (1-mm) crystals of struverite (rutile with Nb and Ta). Another sample of syenite (location not known) contained accessory sphene, epidote, and thorianite; the sphene contained 20,350 ppm rare-earth elements, 6,000 ppm Nb, and 4,400 ppm Zr. In the western part of the pluton an outcrop of fault breccia of argillized rock is cemented by purple fluorite; a grab sample contained 13% F. See also (Hunt Cr.).

(Selawik Lake)

Thorium, Uranium

Selawik district

Selawik (14.35, 6.0) 66°20'N, 160°24'W

A typical sample of nepheline syenite (juvite) from the Selawik Lake alkaline complex contained 11 ppm U and 21 ppm Th. Other rock samples (incorrectly reported as being from the Inland Lake pluton) of unspecified amounts of rock contained as much as 92 ppm U and 70 ppm Th.

# SHUNGNAK QUADRANGLE

(California Cr.)

Asbestos, Gold, Jade, Quartz

Shungnak district MF-448, loc. 16

Shungnak (16.3, 17.1) 66°57'N, 156°38'W

Stream drains an area of metavolcanic rock and phyllite that is cut by many quartz veins from which the gold in the placers was probably derived. Gold discovered in 1918; mining reported in nearly every year through 1940. Total production probably more than 5,000 and less than 20,000 oz. Quartz crystals have been recovered from gold placers. Asbestos fibers said to be as long as about 3 in were found in placer workings. Nephrite boulders common, but very little gem-quality material.

(Cosmos Cr.)

Jade

Shungnak district

Shungnak (12.7, 17.6) 67°00'N, 157°09'W

Jade from float in creek was shipped in 1945.

(Dahl Cr.)

Asbestos, Cadmium, Chromite, Copper, Gold, Jade, Silver

Shungnak district MF-448, locs. 13, 14

Shungnak (14.4-14.7, 16.9-17.65) 66<sup>o</sup>57'-67<sup>o</sup>00'N, 156<sup>o</sup>51-156<sup>o</sup>54'W

Bedrock slate, schist, greenstone, limestone; serpentine near creek close to 67°00'N contains chrysotile and fibrous serpentine. Two placer deposits; upper (and richer) one on and in crevices of schist bedrock in unglaciated part of valley. Lower deposit on false bedrock on or in glacial drift; commonly less than 10 ft below surface. Some of gold in upper deposit very coarse (one nugget worth about \$600, about 29 oz) reported); probably derived from quartz veins in schist. Chromite boulders up to 1 ft in diameter. Native copper and silver (some containing cadmium) nuggets. Much of the material collected (as recently as 1969) as jade was probably serpentinite rather than nephrite. Total gold production may have been as much as 20,000 oz. Intermittent mining from 1898 to at least 1968. Best placer ground probably worked out. See also (Asbestos Mtn.) Ambler River quad.

(Dakli)

Copper, Gold, Silver

Hughes and Shungnak districts MF-448, locs. 8-10

Shungnak (19.3-19.6, 6.5-6.7) 66°21'-66°22'N, 156°13'-156°15'W

Float from quartz veins in a gently dipping contact zone between Cretaceous gneissic hornblente-biotite granodiorite and Jurassic? and Cretaceous andesite contains pyrite, chalcopyrite that carries silver and gold, covellite, and malachite. Three occurrences.

(Ekiek Cr.)

Fluorite, Lead(?), Niobium, Thorium, Uranium

Selawik district

Shungnak (7.0-7.3, 4.1-4.8) 66°14'-66°16'N, 158°37'-158°43'W Uranium and thorium related to niobium-rich pyrochlore in nepheline syenite that intruded and partially replaced alkalic pyroxenite; both of Cretaceous age. Galena questionably identified. Samples of nepheline syenite and of contact zone between nepheline syenite and pyroxenite contained, respectively, averages of 30.7 and 18.0 ppm U and 93.9 and 78.0 ppm Th.

(Hawk R.)

Copper, Lead, Silver

Shungnak district MF-448, locs. 3, 4

Shungnak (10.5-10.65, 4.55-4.6) 66<sup>0</sup>15'N, 157<sup>0</sup>30'-157<sup>0</sup>31'W

Argentiferous galena, chalcopyrite, malachite, and much pyrite in irregular segregations in quartz veins 1 in to 2 ft wide in Upper Jurassic? and Lower Cretaceous andesite and Upper Cretaceous quartz latite volcanic rocks intruded by Upper Cretaceous alaskite and quartz monzonite.

(Lynx Cr.)

Gold

Shungnak district MF-448, loc. 15

Shungnak (16.0, 17.5) 66°59'N, 156°40'W

Thin veneer of gravel on garnetiferous mica schist and related rocks cut by quartz veins; bedrock acted as natural riffles for gold. Supported 1- or 2-man placer mining operation for at least 28 years (about 1912-40). No production figures available, but was probably between 1,000 and 10,000 oz of gold.

(Purcell Mts.)

Rare-earth elements, Thorium, Uranium

Hughes district

Shungnak (12.25, 4.85) 66°16'N, 157°15'W

Parsonite, a secondary hydrous lead-uranium phosphate, occurs as a yellow to brown coating on fractures in a shear zone in Upper Cretacepus (age 77.9±2.3 my) alaskite, which intruded older Cretaceous volcanic and hypabyssal rocks and quartz monzonite of the Wheeler Creek pluton. Magnetite and, less commonly, allanite, are accessory minerals. A sample of altered alaskite with much visible parsonite contained 4,459 ppm U and 566 ppm Th (Th figure probably not reliable). Typical alaskite contains about 13-14 ppm U and 45-52 ppm Th.

(Shovel Cr.)

Gold.

Selawik district MF-448, loc. 17

Shungnak (8.35, 6.1) 66°21'N, 157°49'W

Placer gold was mined in 1950's and 1960's from a stream that crosses the contact between Jurassic?-Lower Cretaceous andesitic volcanic rocks and a Cretaceous quartz monzonite pluton. Abundant tourmaline in creek gravels and tailings. Gold may have been derived from quartz-tourmaline-sulfide veins near contact. Amount of production not known; probably small.

(Stockley Cr.)

Nickel

Shungnak district MF-448, loc. 2

Shungnak (14.7, 17.65) 67°00'N, 156°51'W

Nickel in asbestiform minerals.

(Wesley Cr.)

Gold(?)

Shungnak district

Shungnak (13.65, 17.65) 67°00'N, 157°00'W

Fine gold in unminable concentrations said to have been found in creek gravels. Prospecting shafts did not reach bedrock. Most of references listed in Cobb, 1975 (OF 75-627) are to an occurrence in the Ambler River quad. See (Wesley Cr.) Ambler River quad.

(Zane Hills)

Copper, Rare-earth elements, Thorium,

Uranium

Hughes district MF-448, loc. 12 (in part)

Shungnak (20.75-21.3, 2.5-2.6) 66°07'N, 156°00'-156°04'W

Samples of monzinite border facies of Cretaceous Zane Hills pluton (mainly granodiorite) contained 14-33 ppm U and 75-199 ppm Th. Radioactivity apparently mainly in uranothorianite, thorite, betafite, allanite, zircon, and sphene. A quartz vein 1-3 ft wide cuts monzonite and contains chalcopyrite and 7,000 ppm W; no tungsten mineral noted. See also (Zane Hills) Hughes quad.

Unnamed occurrences

Copper, Gold

Shungnak district MF-448, loc. 5 (in part)

Shungnak (18.1-18.35, 8.2-8.25) 66°27'N, 156°23'-156°25'W

Pyrite- and chalcopyrite-bearing quartz veins as much as 3 ft thick cut Jurassic?-Cretaceous meta-andesite north of Cretaceous rocks of Zane Hills pluton. Samples contained 0.5% Cu and 0.6 ppm Au.

Unnamed occurrence

Molybdenum

Shungnak district MF-448, loc. 11

Shungnak (19.85, 6.25) 66°20'N, 156°11'W

Molybdenite-bearing quartz veins as much as 2 ft thick cut andesite of Jurassic?-Early Cretaceous age near contact with granodiorite of the Cretaceous Zane Hills pluton. A grab sample contained 0.2% Mo.

# Synonyms, Owners, Operators, and Claim Names

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Hughes quadrangle
(Caribou Mtn.) -- see (Zane Hills)
(Clear Cr.) -- see (Zane Hills)
Fairbanks Exploration Co. -- see (Bear Cr.)
(Hogatza) -- see (Bear Cr.)
(Hogatza R.) -- see (Bear Cr.)
(Hog R.) -- see (Bear Cr.)
UV Industries -- see (Bear Cr.)
Melozitna quadrangle
McGee -- see (Utopia Cr.)
Shungnak quadrangle
Arctic Circle Exploration Co. -- see (Dahl Cr.)
Bear Fraction -- see (Dahl Cr.)
Coffin -- see (Dahl Cr.)
(Dall Cr.) -- see (Dahl Cr.)
Ferguson (& Son) -- see (California Cr.)
Garland -- see (Dahl Cr.)
Johnson (& Hanson) -- see (Dahl Cr.)
Kotzebue Fur & Trading Co. -- see (Dahl Cr.)
Lammers and associates -- see (California Cr.)
Lloyd -- see (Dahl Cr.)
Lucky Three -- see (Dahl Cr.)
Orline -- see (Dahl Cr.)
Patterson -- see (Dahl Cr.)
Pohl -- see (Lynx Cr.)
(Purcell Mtn.) -- see (Shovel Cr.)
Tuohy -- see (Dahl Cr.)
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